

SEVENTEEN ADDITIONS TO THE COLLEMBOLA OF NEW YORK.

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Folsom has recorded¹ from New York 66 species and 5 varieties of Collembola. The present paper adds to that list 13 species and 4 varieties, bringing the total of species and varieties to 88, of which one is unnamed. I am indebted to Dr. Folsom for several of these determinations and for checking several preliminary identifications of my own.

Achorutes pseudarmatus Folsom.

Proc. U. S. Nat. Mus., Vol. 50, 1916, p. 490.

This species was described in 1916 from specimens collected in California and British Columbia. One individual was taken under hickory bark by myself at Rochester, N. Y., March 5, 1931.

Achorutes humi Folsom.

Proc. U. S. Nat. Mus., Vol. 50, 1916, p. 487.

Folsom's type specimens were collected in Illinois, where he found the species abundant in woodlands in damp soil and among dead leaves on the ground. The New York specimens listed below are all of the yellow color form.

Ithaca, N. Y., November, 1927, in leaf mold, R. D. Harwood;
Rochester, N. Y., November 15 and 16, 1927, under bark of pine slabs lying on the ground in woods, E. A. M.

Achorutes tigrina Harvey.

Ent. News, Vol. 11, 1900, p. 552.

The original description was based upon eight cotypes taken under bark in a woods at Poronal, Maine. There is in my collection a single New York specimen, which I believe is the second record for the continent, taken at Ithaca, November, 1927, in leaf mold, by R. D. Harwood.

Anurida tullbergi Schött.

Ent. Tidsk, Vol. 15, 1894, p. 128.—Guthrie, Collembola of Minnesota, Rept. Geol. Nat. Hist. Surv. Minnesota, Zool. ser., No. 4, 1903, p. 99.

This species, described from Florida and later recorded from Minnesota, occurs also throughout Europe. It is found on the

¹ A List of the Insects of New York, by M. D. Leonard, Memoir 101, Cornell Univ. Agr. Exp. Sta., 1928, pages 12-17.

seashore, under or among débris, and on the surface of quiet pools. Inland, it is found in similar situations pertaining to bodies of fresh water. Material is at hand from Lakeville, N. Y., October 9, 1927, under board in wet soil on shore of Conesus Lake, E. A. M.

Neanura quadrioculata Guthrie.

Rept. Geol. Nat. Hist. Surv. Minnesota, Zool. Ser., No. 4, 1903, p. 101.—Folsom, Proc. U. S. Nat. Mus., Vol. 50, 1916, pp. 512–513.

This rare species was described from Minnesota. Folsom later recorded specimens taken in Maryland. Three specimens were taken at Van Etten, N. Y., November, 1927, in leaf mold, by R. D. Harwood.

Onychiurus pseudarmatus Folsom.

Proc. U. S. Nat. Mus., Vol. 53, 1917, p. 646.

The type specimens were collected on St. Paul Island, Alaska, and I believe the following is the second record of the species:

Van Etten, N. Y., November, 1927, two specimens in leaf mold, R. D. Harwood.

Onychiurus octopunctatus Tullberg.

Öfv. K. Vet.-Akad.-Handl., Vol. 10, 1876, No. 10, p. 40.—Schött, K. Svenska Vet.-Akad.-Handl., Vol. 25, 1893, No. 11, p. 88.—Folsom, Proc. U. S. Nat. Mus., Vol. 53, 1917, p. 647.

This very rare species was described from a unique type collected at Dudinskoe, Siberia. The specimens recorded by Schött were collected by the Yenisei Expedition at Tschulkova and the Vega Expedition at Irkaipi, in Chukchi Land. Folsom's record is of three specimens from Alaska. My material consists of one specimen from leaf mold, taken by R. D. Harwood at Van Etten, N. Y., November, 1927.

Agrenia bidenticulata Tullberg.

Öfv. K. Vet.-Akad. Förh., Vol. 28, 1871, No. 1, p. 152.

This common European species was described from Sweden, and I believe that it has not heretofore been recorded from North America. A good series was taken at Rochester, N. Y., March 21, 1931, on the surface of a sulphur spring, by S. C. Bishop.

Isotoma trispinata MacGillivray.

Can. Ent., Vol. 28, 1896, p. 51.

MacGillivray's material was collected at Salineville, Ohio. At Rochester, N. Y., March 9, 1927, I found it very common in moss (*Polytrichum* sp.) growing in a low open field.

Isotoma palustris Müller var. *prasina* Reuter.

Öfv. Finsk. Vet. Soc. Förh., Vol. 33, 1891, pp. 226-229.—

Folsom, Report of the Canadian Arctic Expedition, 1913-1918, Vol. III, Insects, Part A, Collembola, 1919, p. 12.

This variety, described from Siberia, is known throughout northern and middle Europe, the Bismarck Archipelago, Nova Zembla, and Ellesmere Land, according to Folsom. It is also recorded from the Canadian Northwest territories and Demarcation Point, Alaska, by Folsom. My New York material is from Lakeville, Oct. 9, 1927, under sticks on lake shore, E. A. M.

Tomocerus flavescens var. *flavescens* Tullberg.

Öfv. K. Vet.-Akad. Förh., Vol. 28, 1871, p. 149.—Folsom, Proc. Wash. Acad. Sci., Vol. 4, 1902, p. 99.

The typical bidentate form of *Tomocerus flavescens*, described from Sweden, is said by Folsom to be rare but widely distributed in this country. He records it from Illinois, Tennessee, California, and Washington. A few specimens were taken in leaf mold at Ithaca, N. Y., Nov., 1927, by R. D. Harwood.

Tomocerus flavescens Tullberg var. *arcticus* Schött.

K. Sv. Vet.-Akad.-Handl., Vol. 25, 1894, No. 11.—Folsom, Proc. U. S. Nat. Mus., Vol. 46, 1913, p. 459.—Folsom, Proc. Wash. Acad. Sci., Vol. 4, 1902, p. 99.

This form was described from Siberia by Schött and relegated to varietal rank by Folsom when recording it from Alaska, Washington, and Oregon. The only New York specimens seen are from Ithaca, and were taken November, 1927, in leaf mold, by R. D. Harwood.

Heteromurus nitidus Templeton.

Trans. Ent. Soc. London, Vol. 1, Pt. 2, 1835, pp. 89-98 (*Podura nitida*).—Packard, Syn. Thys. of Essex County, Mass., 1873, p. 36 (*Lepidocyrtus marmoratus*).

This is a common European species, recorded from Massachusetts by Packard. It is not uncommon at Rochester, New York. The only lot available for study was taken by myself Nov. 16, 1927, under pieces of wood lying on the ground.

Sira nigromaculata Lubbock.

Monograph of the Collembola and Thysanura, Ray Society, 1871 (1873), p. 146.—Harvey, Psyche, Vol. 7, 1894, p. 159 (*Seira mimica*).—Mills, Can. Ent., Vol. 62, No. 9, 1930, p. 202.

This is one of our most interesting species. Lubbock's description is based upon specimens taken "on dry woodwork." In 1894, Harvey recorded specimens from Maine (under the name *Seira mimica*) as occurring about the windows of the college building as high up as the fourth story, about paper waste in the cellar, and among books on library shelves. In 1903 Guthrie reported from Minnesota: "I have taken the species but once. On Sept. 19, 1899, a dozen specimens were found on the outer stone window sill of a third-story window of Pillsbury Hall at the University." Mills records the species from Iowa with the remark that it is seldom taken except in buildings. My material is as follows:

Rochester, N. Y., Dec. 6, 1927, in biological laboratory on third floor, E. A. M.; Rochester, N. Y., Feb. 24, 1927, under dead hickory bark in company with *Sira buskii* Lubbock, E. A. M.

Lepidocyrtus curvicollis Bourlet.

Mem. Soc. Agr., etc., Nord., Douai, 1843, p. 105.

I believe the following specimens to be the first record of this common European species for North America.

Mendon Ponds, N. Y., Oct. 14, 1930, under bark and in moss on log lying in bog, E. A. M.

Lepidocyrtus cyaneus Tullberg var. *cinereus* Folsom.

Am. Mus. Nov., No. 108, 1924, p. 9.

Although described from New York, this variety was apparently omitted inadvertently from the state list of insects in 1928. It occurs abundantly throughout the state, usually under bark. Material in my collection is listed below.

Rochester, N. Y., Feb. 8, 1927, under bark, E. A. M.; Mendon Ponds, N. Y., Oct. 14, 1930, under bark of log lying in bog, E. A. M.

Sminthurus aureus Lubbock.

Trans. Linn. Soc., 1862, p. 589.—Mills, Can. Ent., Vol. 62, No. 9, 1930, p. 203.

This common European species has been reported from Iowa by Mills, and has been taken by me at Rochester, N. Y., November 12 and 16, 1927, under sticks and bark lying on the ground in woods.